

## ABSTRACT

An ultra-wideband pulse modulation apparatus, system and method is provided. The pulse modulation method increases the available bandwidth in an ultra-wideband, or impulse radio communications system. ~~One embodiment of the present invention comprises a pulsed modulation system and method that employs~~ [[a]] A set of different pulse transmission, or emission rates are employed to represent different groups of binary digits. The modulation and pulse transmission method ~~of the present invention~~ enables the simultaneous coexistence of the ultra-wideband pulses with conventional carrier-wave signals. ~~The present invention~~ This method may be used in wireless and wired communication networks such as CATV networks. This Abstract is provided for the sole purpose of complying with the Abstract requirement rules that allow a reader to quickly ascertain the subject matter of the disclosure contained herein. This Abstract is submitted with the explicit understanding that it will not be used to interpret or to limit the scope or the meaning of the claims.